

REMARKS

Applicants have canceled claims 4 and 10-17, without prejudice or disclaimer of their subject matter, amended claims 1, 3, and 18 to more appropriately define the present invention, and added new claims 21-24 to protect additional aspects related to the present invention. Upon entry of this Amendment, claims 1-3, 5-9, and 18-24 remain pending and under current examination.

Regarding the Office Action:

In the Office Action, the Examiner required affirmation of the oral election made on August 8, 2005; objected to claim 3 because of an informality; rejected claims 1-3, 7-9, and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Arena-Foster (U.S. Patent No. 6,440,494) ("Arena-Foster"); and rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Arena-Foster in view of Japanese Patent Publication No. 08-306662 to Tsukada ("Tsukada"). Applicants traverse the rejections for the following reasons.¹

Regarding the Restriction Requirement:

Applicants affirm the oral election to prosecute Group I, claims 1-9 and 18-20, without traverse.

Regarding the Claim Amendments:

Applicants have canceled nonelected claims 10-17, without prejudice or disclaimer of their subject matter. Applicants have also canceled claim 4 to present its limitations in independent claims 1 and 18. In addition, claims 1 and 18 have been amended to clarify that the

¹ The Office Action may contain statements characterizing the related art, case law, and claims. Regardless of whether any such statements are specifically identified herein, Applicants decline to automatically subscribe to any statements in the Office Action.

metal oxide structural body is disposed on an inner surface of the chamber. This amendment finds support in Figs. 1 and 6, and in the corresponding description in the specification.

Claim 3 has been amended to clarify that the recited Cu or Ag is oxidized. Support for this amendment may be found in the specification at, for example, p. 10, lines 16-18.

Finally, new claims 21-24 have been added to protect additional aspects of the present invention. These claims find support, for example, in Figs. 1 and 6, and the corresponding descriptions in the specification and distinguish over the art of record.

Objection to Claim 3:

The Examiner objected to claim 3 for an informality, stating that “it appears that the last line of the claim should read ‘group consisting of Cu oxide and Ag oxide’” (Office Action, p. 3). In response, Applicants have amended claim 3, as discussed above, to overcome the objection by clarifying that the “metal selected from the group consisting of Cu and Ag ... is oxidized.” Applicants therefore deem the objection to claim 3 overcome, and request its withdrawal.

Rejection of Claims 1-3, 7-9, and 18-20 under 35 U.S.C. § 102(b):

Applicants traverse the rejection of claims 1-3, 7-9, and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Arena-Foster. Applicants respectfully disagree with the Examiner’s arguments and conclusions.

In order to properly establish that Arena-Foster anticipates Applicants’ claimed invention under 35 U.S.C. § 102, each and every element of each of the claims in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Arena-Foster does not disclose each and every element of Applicants' claimed invention, despite the Examiner's allegations. Specifically, Arena-Foster does not disclose at least Applicants' claimed "a metal oxide structural body disposed on an inner surface of the chamber and in a position in the vicinity of the plasma and in the position out of ion irradiation from the plasma, the metal oxide structural body being reduced when the hydrogen-atom-containing gas is introduced" (claims 1 and 18, as amended).

Rather, Arena-Foster discloses a metal top plate 54a (Fig. 2) or cylinder 62 (Fig. 3), as a solid source for metal to be deposited, located *inside* an upper electrode (showerhead apparatus 50 (Figs. 1 and 3)). The equipotential surface of the plasma formed between an upper electrode (e.g., shower head 50) and a lower electrode (e.g., susceptor 20) cannot form inside the upper electrode (shower head 50). The metal source in top plate 54a (Fig. 2) or cylinder 62 (Fig. 3) cannot consume hydrogen atoms in the plasma by a reduction reaction. Thus, the solid source for metal to be deposited in Arena-Foster is not formed "on an inner surface of the chamber and in a position in the vicinity of the plasma and in the position out of ion irradiation from the plasma," as recited in claims 1 and 18.

In addition, the Examiner alleged that "[t]his rejection is based on the fact that the apparatus structure taught by Arena-Foster has the inherent capability of being used in the manner intended by the Applicant" (Office Action, p. 5). The Examiner's allegations of inherency are specious and without merit. The Examiner has not established that Arena-Foster discloses each and every element of Applicants' independent claims 1 and 18, either explicitly or under the principles of inherency. As M.P.E.P. § 2112 makes clear:

To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient" (internal citations omitted).

In addition, M.P.E.P. § 2112 states: "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art" (internal citations omitted).

The Examiner has not provided sufficient evidence from Arena-Foster, or any recourse to extrinsic evidence, to establish that the subject matter of Applicants' independent claims is necessarily present in Arena-Foster. Further, the Examiner failed to present sufficient factual basis and/or technical reasoning to demonstrate inherency. Consequently, the Examiner cannot properly infer that the claimed subject matter is inherently disclosed by Arena-Foster, on which to base the rejection. In other words, the Examiner's allegation that "Arena-Foster has the inherent capability of being used in the manner intended by the Applicant" (Office Action, p. 5) is not sufficient to establish that Arena-Foster discloses all the elements of independent claims 1 and 18, either expressly or under the principles of inherency.

Independent claims 1 and 18 are therefore allowable, for the reasons argued above, and dependent claims 2-9, 19, and 20 are also allowable at least by virtue of their dependence from allowable base claim 1 or 18. Therefore, the 35 U.S.C. § 102(b) rejection of claims 1-3, 7-9, and 18-20 should be withdrawn.

Rejection of Claims 5 and 6 under 35 U.S.C. § 103(a):

Applicants respectfully traverse the rejection of claims 5 and 6 under 35 U.S.C. § 103(a) as unpatentable over Arena-Foster in view of Tsukada. Applicants disagree with the Examiner's arguments and conclusions. A *prima facie* case of obviousness has not been established.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). M.P.E.P. § 2142, 8th Ed., Rev. 3 (August 2005), p. 2100-134.

The first requirement for establishing a *prima facie* case of obviousness has not been established, because Arena-Foster and Tsukada, taken alone or in combination, do not teach or suggest each and every element of Applicants' independent claim 1, from which claims 5 and 6 depend. Applicants have already demonstrated in the previous section that Arena-Foster does not teach or suggest all the recitations of independent claim 1.

The Examiner's application of Tsukada, however, for its "solid chemical source 37 [] disposed in a ring/cylindrical shaper on the inner surface of a chamber 12" (Office Action, p. 6), fails to cure the deficiencies of Arena-Foster already discussed. That is, Tsukada also fails to teach or suggest at least the claimed "a metal oxide structural body disposed on an inner surface of the chamber and in a position in the vicinity of the plasma and in the position out of ion irradiation from the plasma, the metal oxide structural body being reduced when the hydrogen-atom-containing gas is introduced" (claim 1, as amended). Applicants note that Tsukada's liner 37 is disposed in a position subjected to ion irradiation by plasma.

Thus, even if Tsukada were combined with Arena-Foster as the Examiner suggests, Arena-Foster and Tsukada do not teach or suggest all the elements of Applicants' claimed invention in independent claim 1, and therefore the Examiner's application of Tsukada as an

additional reference does not render obvious the recitations of Applicants' dependent claims 5 and 6.

Accordingly, the Examiner's reliance on Arena-Foster and Tsukada fails to establish *prima facie* obviousness of dependent claims 5 and 6. Dependent claims 5 and 6 are allowable at least by virtue of their dependence from allowable base claim 1. The improper 35 U.S.C. § 103(a) rejection should be withdrawn.

Conclusion:

In view of the foregoing, Applicants request reconsideration of the application and withdrawal of the rejections. Pending claims 1-3, 5-9, and 18-24 are in condition for allowance, and Applicants request a favorable action.

If there are any remaining issues or misunderstandings, Applicants request the Examiner telephone the undersigned representative to discuss them.

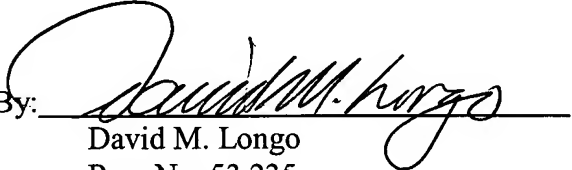
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: December 19, 2005

By: _____


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